



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicants: Werner Opitz

Examiner: Brian J. Sines

Serial No.: 09/600,913

Group: Art Unit 1743

Filed: September 5, 2000

Docket: H 3266 PCT/US
(646-103)

For: AUTOMATIC COMMAND AND
CONTROL OF CLEANSING BATHS
BY MEANS OF ALKALINITY
REGULATION

Dated: March 23, 2004

MAIL STOP APPEAL BRIEF-PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL OF APPELLANTS' BRIEF

Sir:

Enclosed please find APPELLANTS' BRIEF in triplicate.

Also enclosed is a check in the amount of \$330.00 to cover the appeal fee.

If the enclosed check is insufficient for any reason or becomes detached, please charge the required fee under 37 C.F.R. § 1.17 to Deposit Account No. 04-1121. Also, in the event any additional extensions of time are required, please treat this paper as a petition to extend the time as required and charge Deposit Account No. 04-1121. TWO (2) COPIES OF THIS SHEET ARE ENCLOSED.

Respectfully submitted,

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APPELLANTS' BRIEF

Sir:

Pursuant to 37 C.F.R. §1.192, this brief is submitted in triplicate in connection with the appeal which has been taken herein.

(1) REAL PARTY IN INTEREST

The real party in interest for this application is Henkel KGaA.

(2) RELATED APPEALS AND INTERFERENCES

There are no other related appeals or interferences for this application.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, postpaid in an envelope, addressed to the: MAIL STOP APPEAL, BRIEF PATENTS Commission for Patent Appeals, 1401 L St., N.W., Washington, D.C. 20591, on March 20, 2004.

Dated: March 23, 2004

Bridget Griffin
Bridget Griffin

(3) STATUS OF THE CLAIMS

Claims 1 and 15-35 are pending, stand rejected and are under appeal. All of these claims have been finally rejected and constitute the claims on appeal.

A copy of Claims 1 and 15-35 as pending is presented in the Appendix.

(4) STATUS OF AMENDMENTS

Appellants' claims were finally rejected in a final Office Action mailed July 22, 2003.

(5) SUMMARY OF THE INVENTION

The invention of the appealed claims provides a process for the automatic determination of the alkalinity of one or more cleaning baths containing surfactant, the process comprising the following steps, performed under program control, (a) drawing a sample of specified volume from a cleaning bath; (b) determining alkalinity of the sample using the acid-base reaction with an acid, the determining step being performed by a measuring device; (c) outputting the result of step (b); and, (d) adding one or more replenishing components to the cleaning bath if the result of step (b) is below a preset value.

(6) ISSUES

The issue presented in this appeal is whether Beck et al. U.S. Patent No. 5,259,960 ("Beck") in view of Surjaatmadja et al. U.S. Patent No. 5,192,509 ("Surjaatmadja") establishes the *prima facie* obviousness of the steps of the process of appealed Claims 1 and 15-35.

(7) **GROUPING OF CLAIMS**

All of the claims on appeal, i.e., Claims 1 and 15-35, are grouped together.

(8) **ARGUMENT**

Appealed Claims 1 and 15-35 were improperly rejected under 35 U.S.C. §103(a) as obvious over Beck in view of Surjaatmadja, which nowhere teach or suggest appellants' claimed process.

A. **The Combined References of Beck and Surjaatmadja Fail to Establish the *Prima Facie* Obviousness of the Process ofAppealed Claims 1 and 15-35**

1. **The Examiner's Position**

In the Final Office Action the Examiner applied the references as follows:

Beck et al. teach a process for the determination of the alkalinity of a cleaning bath containing a surfactant, wherein the process comprises the following steps: (a) drawing a sample of specified volume from a cleaning bath; and (b) determining the alkalinity of the sample using an acid-base reaction with an acid (col. 6, lines 7-14; col. 14, lines 5-34). Beck et al. teach the step of adding one or more replenishing components to the cleaning bath if the result of step (b) above is below a preset value (col. 20, lines 13-17). Beck et al. teach that the alkaline cleaning solution can be added and replenished during the process as necessary (see col. 4, lines 51-57).

* * *

Beck et al. is silent to the specific teaching of providing for an automated process for determining the alkalinity of the cleaning bath. However, Surjaatmadja et al. do teach an apparatus and method for automatic titration.

* * *

Therefore, it would have been obvious to incorporate the automatic titration method and apparatus, as taught by Surjaatmadja et al., with the process, as taught by Beck et al., since the Courts have held that to provide a mechanical or automatic means to replace manual activity, which accomplishes the same result, is within the ambit of one of ordinary skill in the art. See *In re Venner*, 120 USPQ 192 (CCPA 1958).

2. Appellants' Position

Before showing how the Examiner's rejection of the appealed claims fails to make out a *prima facie* case of obviousness, a statement of the legal principles relating to the establishment of *prima facie* obviousness would be worthwhile. *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992) succinctly sets forth the principles as follows:

The *prima facie* case is a procedural tool of patent examination, allocating the burdens of going forward as between examiner and applicant. *In re Spada*, 911 F.2d 705, 707 n.3, 15 USPQ2d 1655, 1657 n.3 (Fed. Cir. 1990). The term "*prima facie* case" refers only to the initial examination step. *In re Piasecki*, 745 F.2d 1468, 1572, 223 USPQ 785, 788 (Fed. Cir. 1984); *In re Rinehart*, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976). As discussed in *In re Piasecki*, the examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability. If that burden is met, the burden of coming forward with evidence or argument shifts to the applicant.

After evidence or argument is submitted by the applicant in response, patentability is determined on the totality of the record, by a preponderance of evidence with due consideration to persuasiveness of argument. *See In re Spada, supra*; *In re Corkill*, 771 F.2d 1496, 1500, 226 USPQ 1005, 1008 (Fed. Cir. 1985); *In re Caveny*, 761 F.2d 671, 674, 226 USPQ 1, 3 (Fed. Cir. 1985); *In re Johnson*, 747 F.2d 1456, 1460, 223 USPQ 1260, 1263 (Fed. Cir. 1984).

If examination at the initial stage does not produce a *prima facie* case of unpatentability, then without more the applicant is entitled to grant of the patent. *See In re Grabiak*, 769 F.2d 729, 733, 226 USPQ 870, 873 (Fed. Cir. 1985); *In re Rinehart, supra*.

Oetiker and the cited precedents are clear on this: if it can be shown that the Examiner has failed to make out a *prima facie* case of obviousness, the final rejection herein must be reversed.

It is also well established by the Federal Circuit that obviousness cannot be established by simply combining the teachings of the prior art to produce the claimed invention absent some teaching, suggestion or incentive supporting the combination. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984); *In re Geiger*, 815 F.2d 686, 688, 2 USPQ2d 1276, 1278 (Fed. Cir. 1987).

The U.S. Patent and Trademark Office guidelines for *prima facie* obviousness are set forth in MPEP 2142 (Legal Concept of *Prima Facie* Obviousness) as follows:

...First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

These three criteria are not satisfied by the combination of Beck with Surjaatmadja for at least the following reasons.

As pointed out by the Examiner, nowhere does Beck disclose or suggest a process for the automatic determination of the alkalinity of one or more cleaning baths containing a surfactant and replenishing said bath as necessary, comprising the steps of, under program control, "determining alkalinity of the sample using an acid-base reaction with an acid ... and ... adding one or more replenishing components to the cleaning bath if the result of the alkalinity determination is below a preset value" as generally recited in Claim 1.

Rather, Beck discloses a process for regenerating and recycling contaminated solutions recovered from one or more stages of a multi-stage aluminum or tin plate container or coil washer process. The cleaning solutions in the process of Beck become contaminated not

only with oils and dirt from the surface of the aluminum or tin being treated, but also with dissolved metals (referred to as "reaction product" or "RP", which is the amount of aluminum, tin, or other metal present in the used solution). The content of the dissolved metals must be analyzed to determine if they should be removed from the process solution. In this manner, the primary goal of Beck is to analyze the amount of dissolved metal compounds and to remove the content of the metal compounds from the process solution.

To accomplish this step, Beck discloses that the RP value for alkaline cleaning baths is determined by first determining the free alkalinity of the solution by adding phenolphthalein, adding potassium fluoride to produce a red color and then titrating the sample with sulfuric acid such that the milliliters of titrant used indicates the RP value, i.e., the amount of aluminum, tin, or other metal present in the used solution. Beck further discloses that the RP value of an acid cleaner bath can be determined by first determining the free alkalinity of the bath, the total acid of the bath and then subtracting the total acid value from the free alkalinity value. As a result of the RP analysis, the contaminants are removed from the process solution, e.g., by precipitating the contaminants (*see col. 16, lines 25 to 55*), and then additional process solution is added. Thus, the alkalinity determination in Beck is described as a way to determine the amount of dissolved contaminants (the "RP analysis"), and *not* to monitor the cleaning capability of the solution as the Examiner erroneously concluded.

Accordingly, there is no suggestion, motivation or even a hint in Beck of determining the alkalinity of a cleaning bath using an acid-base reaction with an acid and, if the alkalinity is below a preset value, adding one or more replenishing components to the cleaning bath. Therefore, one skilled in the art would be led away by the teachings of Beck.

The Examiner alleged in the final Office Action that “Beck et al. do teach the step of adding one or more replenishing components to the cleaning bath if the alkalinity of the sample is below a preset value”. However, the Examiner either refuses or simply cannot identify with particularity where in Beck such teaching can be found. While Beck does disclose that its cleaning baths “may be regenerated by selectively replenishing chemicals as required” (see col. 20, lines 15-16), nowhere is there any disclosure or suggestion in Beck that its determination of free alkalinity in conducting its RP analysis is used to determine the alkalinity of a cleaning bath using an acid-base reaction with an acid and, if the alkalinity is below a preset value, adding one or more replenishing components to the cleaning bath as set forth in the present claims. To the contrary, and as misinterpreted by the Examiner, the alkalinity determination in Beck is described as a way to determine the amount of dissolved contaminants in the cleaning solution and *not* to monitor the cleaning capability of the solution. Thus, the primary goal of Beck is not to determine the alkalinity of a cleaning bath and, if below a preset value, add one or more replenishing components to the bath *but* to reduce the amount of contaminants of a cleaning solution.

Surjaatmadja does not cure and is not cited as curing the deficiencies of Beck et al. Specifically, nowhere does Surjaatmadja disclose or suggest the automatic determination of the alkalinity of one or more cleaning baths containing a surfactant employing the steps of “determining alkalinity of the sample using an acid-base reaction with an acid ... and ... adding one or more replenishing components to the cleaning bath if the result of the alkalinity determination is below a preset value” as generally recited in amended Claim 1.

Rather, Surjaatmadja is merely cited for its disclosure of an automated device for titration and not at all to the specifically recited steps of “determining alkalinity of the sample using an acid-base reaction with an acid...and...adding one or more replenishing components to the cleaning bath if the result of the alkalinity determination is below a preset value”.

Most, if not all, inventions arise from a combination of old elements. *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457 (Fed. Cir. 1998). However, identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention. *Id.* Rather, to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the appellant. *In re Dance*, 160 F.3d 1339, 1343, 48 USPQ2d 1635, 1637 (Fed. Cir. 1998); *In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984).

Appellants employ a self-control system, i.e., one that is automatic, which is independent from any human action. Additionally, the presently claimed process also replenishes components to the cleaning bath automatically if the result of the alkalinity determination is below a preset value. Accordingly, the steps of the present process, as set forth in the present claims, employs a procedure which starts itself automatically and subsequently makes a decision based on the result of the alkalinity determination to decide independently from any human interaction if and to what extent a replenishment of replenishing components should be added to the cleaning bath. There is no remote suggestion, motivation or even a hint of this step in Surjaatmadja.

Even assuming, *pro arguendo*, that there is in fact a motivation, suggestion or teaching of the desirability of combining Beck with Surjaatmadja, the deficiencies of Surjaatmadja being merely directed (according to the Examiner) to an *automatic* means for titration, does not cure those deficiencies.

This is even acknowledged by the Examiner in the final Office Action where it is stated that “[I]n this case, the reference to Surjaatmadja et al. is merely used to provide a teaching of an automatic titration process of which one of ordinary skill in the art would have been apprised of. Surjaatmadja et al. do teach an apparatus and method for automatic titration.” To remedy the deficiency of Surjaatmadja, the Examiner further alleged that “[T]herefore, it would have been obvious to incorporate the automatic titration method and apparatus, as taught by Surjaatmadja et al., with the alkalinity determination process, as taught by Beck et al., since the Courts have held to provide a mechanical or automatic means to replace manual activity which accomplishes the same result is within the skill of a routineer in the art” citing *In re Venner*, 262 F.2d 91, 120 USPQ 192 (CCPA 1958). However, as the court pointed out in *In re Lee*, 277 F.3d 1338, 1342-43, 61 USPQ2d 1430, 1433-34 (CAFC 2002), there must be some teaching, motivation or suggestion to select and combine references relied upon as evidence of obviousness. As is the case here, the Examiner has utterly failed to make out a case of where Surjaatmadja provides such teaching, motivation or suggestion of the automatic process for the determination of the alkalinity of one or more cleaning baths containing a surfactant and replenishing said bath as necessary as presently set forth in the appealed claims. In order to provide such motivation, the Examiner merely alleged that

Although the teachings of Beck et al. in view of Surjaatmadja et al. perhaps may not be what the applicant intends as the claimed invention, the breadth in the scope of the claims encompass those teachings, and thereby do not *exclude* those teachings. [Examiner's emphasis.]

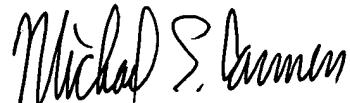
However, as previously discussed hereinabove, Surjaatmadja is directed to *automatic* titration and at no point provides any such disclosure, motivation or even a suggestion of an *automatic* determination of the alkalinity of one or more cleaning baths containing a surfactant and replenishing said bath as necessary by determining alkalinity of the sample using an acid-base reaction with an acid ... and ... adding one or more replenishing components to the cleaning bath if the result of the alkalinity determination is below a preset value as set forth in the presently appealed claims. As such, one skilled in the art would not be motivated by the Surjaatmadja disclosure to modify the method of Beck and arrive at the presently claimed method. Accordingly, the Examiner has failed to present a *prima facie* case of obviousness and shift the burden of going forward to the appellants, *In re Grabiak*, 769 F.2d 729, 226 USPQ 870 (Fed. Cir. 1985), by failing to establish the motivation to combine Beck with Surjaatmadja.

Thus, since Beck, alone or in combination with Surjaatmadja, do not disclose or suggest a process for the automatic determination of the alkalinity of one or more cleaning baths containing a surfactant and replenishing said bath as necessary, comprising the steps of, under program control, "determining alkalinity of the sample using an acid-base reaction with an acid ... and ... adding one or more replenishing components to the cleaning bath if the result of the alkalinity determination is below a preset value" as generally recited in Claim 1, appealed Claims 1 and 15-35 are believed to be nonobvious, and therefore patentable, over Beck and Surjaatmadja.

IV. CONCLUSION

For the foregoing reasons and for all of the reasons of record, it is submitted that appealed Claims 1 and 15-35 are patentable over the prior art relied upon by the Examiner. Reversal of the final rejections by the Board is therefore believed to be warranted, such being respectfully requested.

Respectfully submitted,



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(9) **APPENDIX**

1. (Previously Amended) A process for automatic determination of the alkalinity of one or more cleaning baths containing surfactant the process comprising the following steps, performed under program control,

- (a) drawing a sample of specified volume from a cleaning bath,
- (b) determining alkalinity of the sample using the acid-base reaction with an acid, the determining step being performed by a measuring device,
- (c) outputting the result of step (b), and
- (d) adding one or more replenishing components to the cleaning bath if the result of step (b) is below a preset value.

2-14. (Cancelled)

15. (Previously Presented) The process of claim 1 further comprising the step of removing solids from the sample prior to the step of determining alkalinity.

16. (Previously Presented) The process of claim 1 wherein free alkalinity is determined in the step of determining alkalinity.

17. (Previously Presented) The process of claim 1 wherein total alkalinity is determined in the step of determining alkalinity.

18. (Previously Presented) The process of claim 1 wherein the step of determining alkalinity comprises titrating the sample by addition of an acid.

19. (Previously Presented) The process of claim 1 wherein the step of determining alkalinity comprises titrating an acid by addition of the sample.

20. (Previously Presented) The process of claim 1 wherein the step of outputting comprises displaying the result of step (b).

21. (Previously Presented) The process of claim 1 wherein the step of outputting comprises storing the result of step (b) on a data carrier.

22. (Previously Presented) The process of claim 1 wherein steps (a) through (c) are automatically repeated after a specified time interval.

23. (Previously Presented) The process of claim 22 further comprising the step of adjusting the duration of the specified time interval based on a comparison of the results of step (b) on consecutive drawn samples.

24. (Previously Presented) The process of claim 1 further comprising the step of inputting an external request to initiate steps (a) through (c).

25. (Previously Presented) The process of claim 1 further comprising determining the alkalinity of one or more standard solutions.

26. (Previously Presented) The process of claim 25 wherein steps (a) through (c) are automatically repeated after a specified time interval and the step of determining the alkalinity of one or more standard solutions is initiated if the results of step (b) on two consecutive drawn samples differs by a preselected value.

27. (Previously Presented) The process of claim 25 further comprising the step of outputting the result from the step of determining the alkalinity of the one or more standard solutions.

28. (Previously Presented) The process of claim 25 wherein steps (a) through (c) are automatically repeated after a specified time interval and further comprising one or more steps selected from the group consisting of

analyzing the results of a plurality of alkalinity determinations,
automatically terminating the process,
activating a detectable signal, and
adjusting operation of the measuring device.

29. (Previously Presented) The process of claim 1 wherein the step of determining alkalinity is conducted using a pH-sensitive electrode.

30. (Previously Presented) The process of claim 1 wherein the step of determining alkalinity comprises measuring pH-dependent interaction with electromagnetic radiation.

31. (Previously Presented) The process of claim 1 wherein the step of determining alkalinity comprises monitoring changes in one or more properties selected from the group consisting of color, refractive index and electrical conductivity.

32. (Previously Presented) The process of claim 1 further comprising the step of automatically determining the level of one or more reagents.

33. (Previously Presented) The process of claim 32 further comprising the step of activating a detectable signal in response to a determination of a preselected level of one or more reagents.

34. (Previously Presented) The method of claim 1 further comprising the step of transmitting the result of step (b) to a remote location.

35. (Previously Presented) The process of claim 1 further comprising the step of automatically adding one or more pH-adjusting components into the cleaning bath in response to the result of step (b) being a preselected value.